QSD2308L/QSD2316L

DVR User's Manual

NOTE: We use two different front panel designs on these models. They have the same function buttons but they are arranged differently. Please match the front panel on your model with the layouts below.

For H.264-200 FPS /240 FPS /8-channel/16-channel digital video recorder

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Rev 111408A

CAUTION

- **Please read this user manual carefully to ensure that you can use the device correctly and safely**
- **The contents of this manual are subject to change without notice**
- **This device should be operated only with the power source supplied with the unit. The power supply voltage must be verified before using. If not going to be used for a long time, unplug the unit from the outlet**
- **Do not install this device near any heat sources such as radiators, heat registers, stoves or other devices that produce heat**
- **Do not install this device near water. Clean only with a dry cloth**
- **Do not block any ventilation openings, and make sure the area around the machine is well ventilated**
- **This machine is designed for indoor use. Do not expose the machine to water or a moist environment. If any solid or liquid gets into the machine's case, please cut off the power supply immediately, and have the unit checked be a qualified technician before restart**
- **Refer all servicing to qualified service personnel. There are no parts in the unit you can service your self.**

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CHAPTER 1 Introduction

1.1 DVR Introduction

This DVR uses high performance video processing chips and an embedded Linux system. It utilizes many advanced technologies, such as standard H.264 with low bit rate, Dual Stream, SATA interface, VGA output, supports access by mouse, IE browser supported with full remote control, mobile viewing by cell phones, etc. it has very powerful functions and high stability. It is widely used in banking, telecommunication, transportation, factories, warehouses, irrigation, etc.

1.2 Main Features

COMPRESSION FORMAT

- Standard H.264 compression with low bit rate. Backup file can be played by normal player, without any software or codec installed.

LIVE SURVEILLANCE

- Supports VGA output
- Supports channel security by hiding live display
- Displays the local record state and basic information
- Supports full control with USB or PS/2 mouse
- Supports system locking and unlocking

RECORDING MEDIA

- Supports 2 SATA HDDs to record for long time periods

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- Supports system locking and unlocking

RECORDING MEDIA

- Supports 2 SATA HDDs to record for long time periods

BACKUP

- Supports USB flash drive for backup
- Supports built-in SATA DVD writer for backup
- Supports saving recorded files to a remote computer through internet

RECORD & PLAYBACK

- Record modes: Manual, Schedule, Motion detection and Sensor alarm recording
- Supports recycling after HDD is full
- Resolution, frame rate and picture quality adjustable for each channel separately
- 64MB for every video file packaging
- 4 audio channels available
- Two record search modes: time search and event search
- Supports single and 4 screen playback
- Supports deleting and locking the recorded files individually
- Supports remote playback in Internet Explorer through LAN or internet

ALARM

- 16 channel alarm input and 4 channel alarm output available
- Supports schedule for motion detection and sensor alarm
- Supports pre-recording and post recording
- Supports linked channel recording once a motion or sensor alarm is triggered on certain channels
- Supports linked PTZ presets and auto cruise on the corresponding channel

PTZ CONTROL

- Supports various PTZ protocols
- Supports various PTZ presets and 16 auto cruise tracks
- Supports remote PTZ control through internet

SECURITY

- Two level user group management: advance and normal, rights authorized by administrator
- Support one administrator and 15 users.
- Support event log recording and checking, unlimited events

NETWORK

- Supports TCP/IP, DHCP, PPPoE, DDNS protocol
- Supports IE browser to do remote viewing
- Supports a maximum of 5 connections simultaneously
- Supports dual stream. Network stream adjustable independently to fit the network bandwidth and environment.
- Supports picture snap and color adjustment in remote live view
- Supports remote time and event search, mouse drag search, single channel playback with picture snap
- Supports remote PTZ control with preset and auto cruise
- Supports remote full menu setup, changing all the DVR parameters remotely
- Supports mobile surveillance by smart phones or PDA with Symbian or WinCE OS, 3G network available
- Supports CMS to manage multiple devices on internet.

CHAPTER 2 Hardware Installation

***Note**: Check the unit and the accessories before using the DVR.*

Please disconnect the power before connecting to other devices. Don't hot plug in/out

2.1 Installing Hard Drive & DVD Writer (optional)

2.1.1 Installing Hard Drive

***Note**: 1. Supports two SATA hard drives.*

2. Please calculate HDD capacity needed according to the recording setting. Please refer to "Appendix B Calculate Recording Capacity".

STEP1 Unscrew and open the top cover

STEP2 Connect the power and data cables. Place the HDD onto the bottom case as below.

Fig 2.1 Connect HDD

STEP3 Screw in the HDD as shown below.

Note: For easier installation, please connect the power and data cables first, and then screw HDD to base.

Fig 2.2 Screw in HDD

2.1.2 Installing DVD Writer (optional)

***Note**: 1. The writer must be one of the compatible devices we recommend. Please refer to "Appendix C Compatible Devices"*

2. This device is only for backup

STEP1 Unscrew and open the top cover

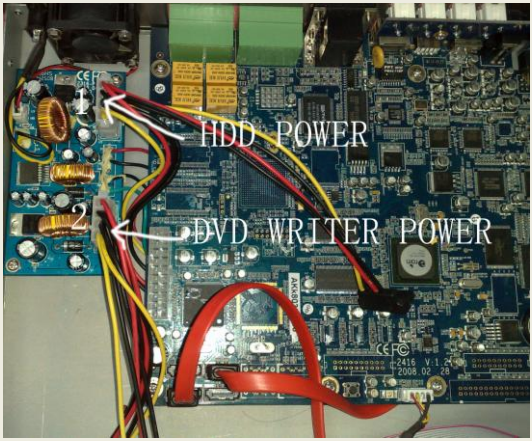
STEP2 Connect the power and data cables. Place the writer onto the bottom case as shown below.

Fig 2.3 Connect the Writer

STEP3 Screw in the writer as below.

Fig 2.4 Screw in the Writer

STEP4 Attach the power cable to the proper system board connection.



2.2 Front Panel Layouts

NOTE: We use two different front panel designs on these models. They have the same function buttons but they are arranged differently. Please match the front panel on your model with the layouts below.

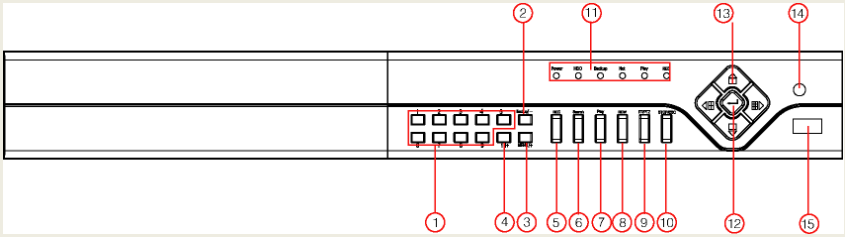


Fig 2.5 Front Panel Option A

Item	Name	Description
1	Digital buttons	Input numbers or choose camera
2	-/Backup	1. Decrease the value in setup 2. Enter backup mode from live view
3	+/Menu button	1. Increase the value in setup 2. Enter menu from live view
4	10+/Info	1. Enter number 10 & above with other numbers 0-9, push twice for 10. 2. System Info
5	RECORD	Record manually
6	SEARCH	Enter search mode
7	PLAY	Enter playback menu
8	REW	Rewind
9	FF/PTZ	1. Fast forward 2. Enter PTZ mode from live view
10	STOP/ESC	1. Quit playback mode 2. Exit the current menu or status
11	Indicator	Working indicators of power, HDD, network, etc
12	Enter button	To confirm the choice or setup
13	Direction/Multi-screen button	1. Direction buttons. Move cursor in setup or pan/tilt PTZ 2. Change screen display like single, 4 and 8 screens
14	IR Receiver	For remote control
15	USB port	To connect external USB flash drive for backup or updating firmware

Table 2.1 Functions of Front Panel Buttons Option A

Fig 2.6 Front Panel Option B

Item	Name	Function
1	DVD Recorder / HDD	Tray opening for optional DVD Recorder or Hard Drive
2	Number buttons	Input numbers or choose camera
3	Menu/+ button	1. Increase the value in setup 2. Enter menu from live view
4	Backup-/back	Backup files, Delete, Number Decrease button
5	RECORD/Focus	Record manually, Focus PTZ cameras
6	SEARCH/Zoom	Enter search mode, Zoom control for PTZ cameras
7	PLAY/Iris button	Enter playback interface, Iris control for PTZ cameras
8	REW/Speed/info	Rewind, increase or decrease speed, system info
9	FF/PTZ control	1. Fast forward 2. control PTZ cameras
10	STOP/ESC	1. Quit playback mode 2. Exit the current interface or status
11	Indicator	Working indicators for power, HDD, network, etc
12	Enter button	To confirm the choice or setup
13	Direction/Multi-screen button	1. Direction buttons. Move cursor in setup or pan/tilt PTZ 2. Change screen display like single, 4, 9 and 16 screens
14	USB port on side	To connect external USB flash drive for backup or updating firmware

Table 2.2 Functions of Front Panel Buttons Option B

2.3 Rear Panel

2.3.1 Rear Panel layout

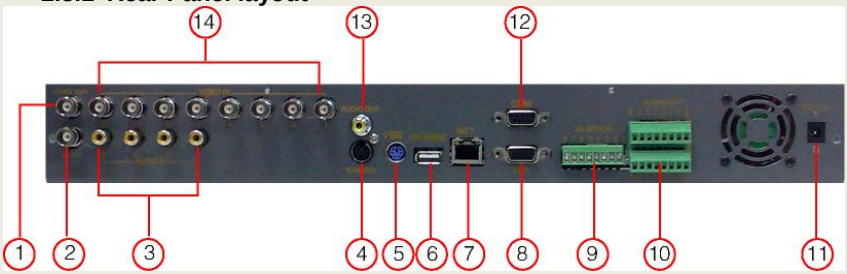


Fig 2.7 Rear Panel of 8-channel DVR

Item	Name	Description
1	VIDEO OUT	Connect to monitor
2	SPOT OUT	Connect to monitor as an AUX output channel for one channel. only displays video, not menu
3	AUDIO IN	4-channels audio input
4	S-VIDEO	S-Video output, connect to monitor
5	PS/2 port	Connect PS/2 mouse
6	USB MOUSE port	Only for USB mouse
7	RJ45 port	Connect to internet
8	VGA port	VGA output, connect to monitor
9	ALARM IN	Connect to external sensor 1-8.
10	ALARM OUT/PTZ	Relay output 1-4. Connect to external alarm. PTZ input
11	POWER INPUT	DC 12V
12	COM port	For debugging
13	AUDIO OUT	Audio output, connect to speakers
14	VIDEO IN	8 Video inputs for cameras

Tab 2.3 Ports on Rear Panel 8 channel

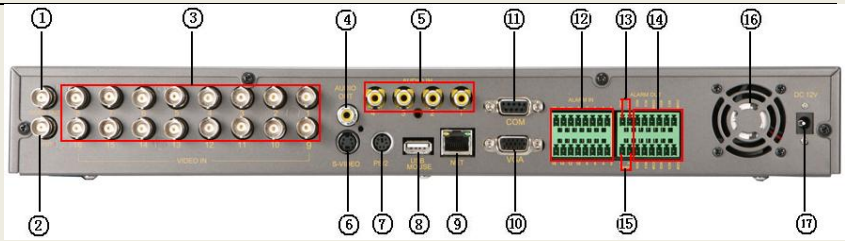


Fig 2.8 Rear Panel of 16-channel DVR

Item	Name	Description
1	VIDEO OUT	Connect to monitor
2	SPOT OUT	Connect to monitor as an AUX output channel for one channel. only displays video, not menu
3	VIDEO IN	16 Video inputs for cameras
4	AUDIO OUT	Audio output, connect to speakers
5	AUDIO IN	4-channels audio input
6	S-VIDEO	S-Video output, connect to monitor
7	PS/2 port	Connect PS/2 mouse
8	USB port	Only for USB mouse
9	RJ45 port	Connect to internet
10	VGA port	VGA output, connect to monitor
11	COM port	For debugging
12	ALARM IN	Connect to external sensor1-16.
13	+5V and GND	+5 Voltage and Ground
14	ALARM OUT/PTZ	Relay output1-4. Connect to external alarm. PTZ input
15	RS485	Connected to speed domes
16	FAN	For cooling the device
17	POWER INPUT	DC 12V

Tab2.4 Ports on Rear Panel of 16 channel

***Note**: The resolution of VGA output is 800*600/60Hz. If connected through VGA port, please assure your display supports this display mode. (Most LCD screens can adapt to it automatically without manual adjustment)*

2.3.2 Installing Sensor & Alarm (optional)

The DVR has 16 channel alarm input and 4 channel alarm output.

Alarm Input:

The alarm input is triggered by electric level (High: 5V, Low: 0V). Users can connect external sensors, like gas detectors, smoke detectors and infrared detectors. Once the DVR detects that the electric level meets the user's settings it will trigger the DVR recording or alarm out.

For example, a sensor is connected to alarm input1 as Fig 2.1. Cable A and B will be connected once the sensor detects an event. Users set Device type as NC (Normal Close), refer to Fig 2.1. It will input +5V (high level) to input1 when triggered, DVR will start recording.

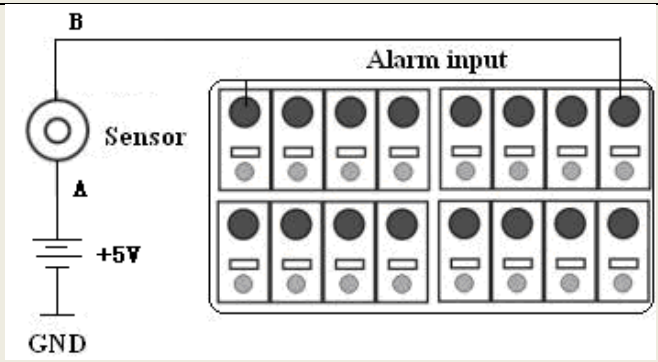


Fig 2.5 Sensor Connection

Alarm output:

The DVR has 4 channel relay alarm output, which just gives on/off signal to external alarm. The status of these pin are illustrated as 8.

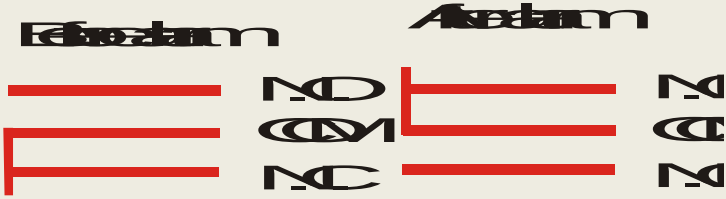


Fig 2.6 Relay Output Status

Users need connect their alarm according to the NO or NC type of the alarm. One connection example is shown as Fig 2.9

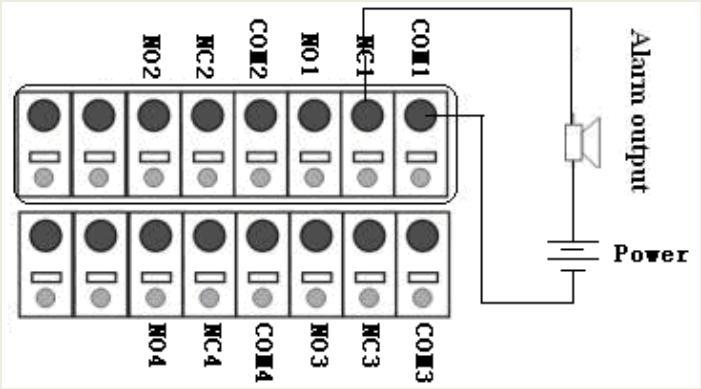


Fig 2.7 Alarm Output Connection

***Note**: The power in series must be 277VAC/10A or 30VDC/10A or below*

2.4 Remote Control

The remote control uses two AAA batteries, instructions for loading:

STEP1 Open the battery cover of the Remote Control
STEP2 Insert batteries with the poles (+ and -) correctly aligned
STEP3 Replace the battery cover

***Note**: If remote does not function check the following:*

1. Check polarity of batteries

2. Check the remaining charge in the batteries

3. Check to see if remote control sensor is blocked

If it doesn't still work, exchange for a new remote control or contact your dealer.

The interface of the remote control is shown in Fig 2.10

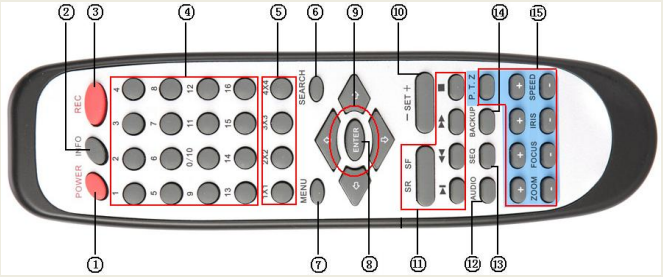


Fig 2.8 Remote Control

Item	Name	Function
1	Power Button	Push button softly to stop firmware running before pushing harder to power off.
2	INFO Button	Get information about the DVR such as firmware version, HDD information
3	REC Button	To record manually
4	Number Buttons	Input numbers or choose camera
5	Multi Screen Button	To choose multiple screen display mode
6	SEARCH Button	To enter search mode
7	MENU Button	To enter menu
8	ENTER Button	To confirm the choice or setup
9	Direction Button	Move cursor in setup or control PTZ camera
10	+/- Button	To increase or decrease the value in setup
11	Playback Control Button	To control playback. Fast forward/rewind/stop/single frame play
12	AUDIO Button	To enable audio output in live mode
13	Auto Dwell Button	To enter auto dwell mode
14	BACKUP Button	To enter backup mode
15	PTZ Control Button	To control PTZ camera. Move camera/ZOOM/FOCUS/IRIS/SPEED control

Table 2.2 Functions of Remote Control Buttons

2.5 Controlling with a Mouse

2.5.1 Connecting Mouse

DVR supports PS/2 or USB mouse through the ports on the rear panel, please refer to Fig 2.10 Remote Control

***Note**: If mouse is not detected or doesn't work, check below:*

1. Unplug/re-plug several times

2. Power off/on several times

3. Try another mouse

2.5.2 Using Mouse

In live view:

Click left mouse button on one camera to display full screen. Click again to return to the previous screen display.

Click right button to show the control bar at the bottom of the screen as in Fig 2.10 Remote Control. Here are all the controls and setup. Click right mouse button again to hide the control bar.

In setup:

Click left button to enter. Click right button to cancel setup, or return to the previous screen.

If want to input the value, move cursor to the button and click. An input window will appear as in Fig 2.9 Input Window. It supports numbers, letters and symbols.

Fig 2.10 Input Window

Users can change some values by using the mouse wheel, such as time. Move cursor onto the value, and roll the wheel when the value blinks click it.

It supports mouse dragging, i.e. set motion detection area: click customized, hold left button and drag to set motion detection area. Set schedule: hold left button and drag to set schedule time

In playback: Click left button to choose the options. Click right button to return to search mode.

In backup: Click left button to choose the options. Click right button to return to live view.

In PTZ control: Click left button to choose the buttons to control the PTZ. Click right button to return to searching mode.

***Note**: Mouse is the default tool in all the operations below unless stated otherwise.*

CHAPTER 3 Basic Function Instructions

3.1 Power On/Off

Note: *Before you power on the unit, please make sure all the connections are good.*

Connect the power, the system will show the screen in Fig 3.1 System Loading

Fig 3.1 System Loading

After that it will enter live in 16 screen mode. The meaning of letters or symbols on screen are shown in the table below.

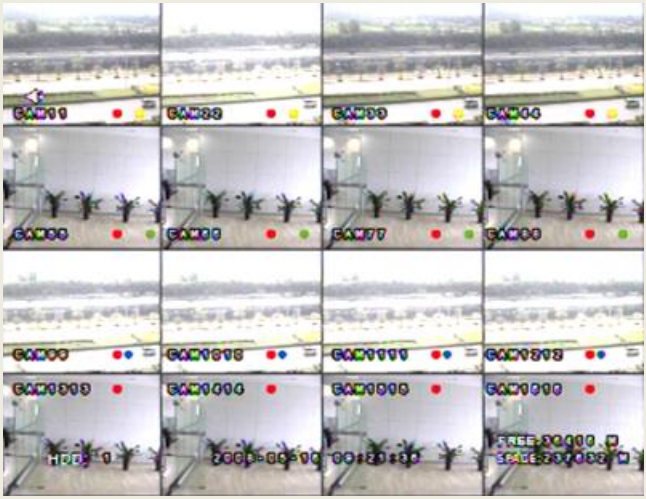


Fig 3.2 Preview

Symbol	Meaning	Symbol	Meaning
	Live audio enabled		Live audio disabled
	Manual recording		Scheduled recording
	Motion detection recording		Alarm recording
HDD	Current working HDD	Space	Size of current HDD
Free	Free space of current HDD		USB devices connected
	HDD full		

Table 3.1 Meaning of Symbols in Live View

To power off safely follow the steps below. Users can close the unit by remote control, front panel and mouse.

By remote control:

STEP1 Press POWER button, the screen below will appear:

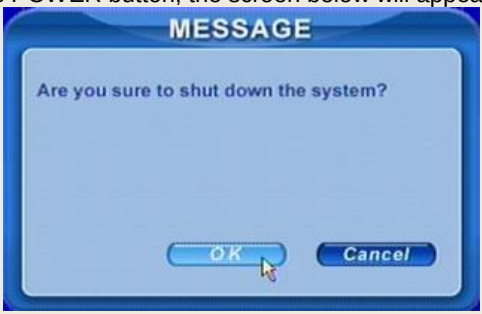


Fig 3.3 Shut down

STEP2 Choose OK. The unit will power off automatically after shutting down software.

STEP3 Disconnect the power

By front panel or mouse:

STEP1 Press ENTER button or click right mouse to show menu bar, refer to Fig 4.1 Control Bar.

STEP2 Click Shut down button, refer to Fig 3.3 Shut down

STEP3 Click OK on the pop-up window. The unit will power off automatically after shutting down software

STEP4 Disconnect the power

3.2 Login & User Management

Users can log in and out of the DVR system. Users cannot do any other operations except changing the multi screen display once logged out.

Login:

If logged out press right mouse button to show the control bar. Press Login, Search or System etc. A login window will appear, asking for ID and password shown as Fig 3.4 Login.

Fig 3.4 Login

***Note**: The default password is admin and 123456.*

Change password:

Every user can change his own password.

STEP1 While logged in, click Log in/out on the control bar. A window will appear with two options. One is for logout, another for password modification. Click Password, the window will appear as in Fig 3.5 Change Password.

Fig 3.5 Change Password

STEP2 Input the old password. Then input new password 2 times.
STEP3 Press OK button to change.

Add & Delete users:

This unit has a default administrator and two user groups, advance user and normal user. It supports one administrator and 15 users total. Administrator can add or delete other users, and change their group level. Administrator cannot be added or deleted.

Press right mouse button to show the control bar. Enter Menu---->System.

STEP1 Enter USER configuration. Click Add button, see Fig 3.6 Add User.

Fig 3.6 Add User

STEP2 Input user name and password. Choose the user group.
STEP3 Click OK button to add a new user
STEP4 Choose a user, a symbol will display at the end of the user information. Click Authority button to change the group level.
STEP5 Press Delete button to delete the user. A security window will appear as shown below.

STEP6 Click OK button to delete the user

***Note**: Defining users' rights*

Administrator: can to do every thing.

Advance: all functions except entering USER to manage users

Normal: all functions except entering SYSTEM to change the settings.

The user name and password is a combination of numbers, letters or symbols. The number of characters must be 1 or more.

3.3 Recording

3.3.1 Record Setup

Users need to install and format a HDD, and set all the recording parameters before recording.

***Note**: Some vendors sell the DVR with a hard drive already installed, if this is the case you just need to set the recording parameters.*

There are four recording modes. Users can enable them simultaneously, but only one recording mode works at a time. They have different priorities, the priority order is below:

Motion detection recording > Sensor recording > Manual recording > Timer recording

Press right mouse button to show the control bar, refer to Fig 4.1 Control Bar. Enter Menu---->System.

STEP1 Enter RECORD configuration, refer to Fig 3.7 Record Setup, Select cameras.

Fig 3.7 Record Setup

STEP2 Set Video quality, Frame rate and Resolution.

STEP3 Have Audio checked if you input audio and want to record. Check Time stamp to record

STEP4 Enable recording function for cameras in Record option.

***Note**: If you have a camera uncheck here, it will not record in any recording mode.*

STEP5 Set Alarm record hold time. It is for post alarm recording.

STEP6 Enable Recycle. It replaces old video with new files after HDD is full. If you have it unchecked, it will stop recording automatically once HDD is full

STEP7 Click OK to finish

***Note**: The higher the Video quality, Frame rate and Resolution, the more storage space is used every hour.*

This Unit supports pre-alarm recording. But there is no option to set the pre-alarm recording time, the default is 10 seconds

3.3.2 Manual Recording

Just press REC button on the front panel after quitting system setup. Press Stop button to stop recording.

Or press REC button on remote control, click again to stop.

Or click REC button on the control bar with mouse, click again to stop.

3.3.3 Scheduled Recording

Users can set different schedule times for every day of the week. If you want a special schedule for one day, you can use the Holiday function.

STEP1 Enter SCHEDULE configuration. Select cameras and Always, see Fig 3.8 Schedule Setup.

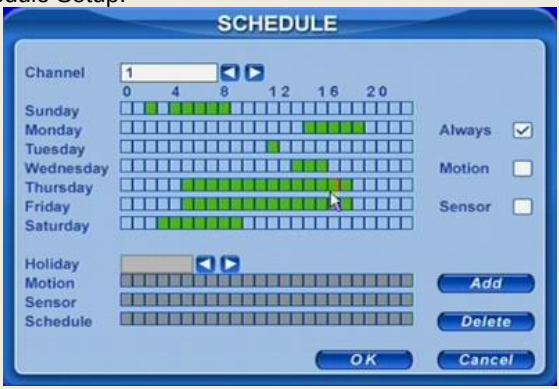


Fig 3.8 Schedule Setup

STEP2 The first column lists the 7 days of the week. The rows show 24 hours. Set the schedule time.

Green means checked. Transparent means unchecked.

STEP3 Press Add button to select the date if you want a special schedule for a certain day. A window will appear as Fig 3.9 Calendar.

Fig 3.9 Calendar

STEP4 Select the date and set the schedule time. If you want to delete this special schedule, click Delete button

STEP5 Click OK button to finish

The DVR will record automatically once it goes to the time you set.

3.3.4 Motion Detection Recording

This unit supports recording channels and PTZ linking. This means it will record any cameras, or trigger any speed dome to preset or do auto cruise once motion is detected on the camera's channel.

STEP1 Enter MOTION configuration, see Fig 3.10 Motion Detection Setup. Select cameras

Fig 3.10 Motion Detection Setup

STEP2 Enable Detection first. Enter Area to set Sensitivity and detection Area. In detection area, red means not active, transparent means active, see Fig 3.11 Motion Detection Area Setup.

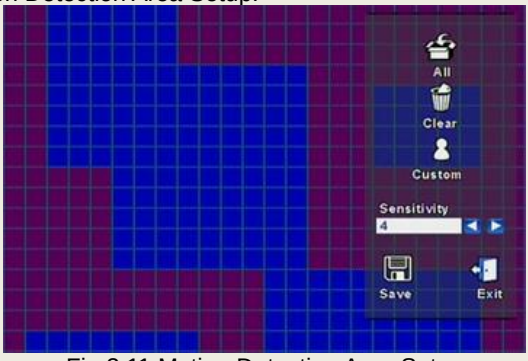


Fig 3.11 Motion Detection Area Setup

STEP3 Enter Trigger configuration, see Fig 3.12 Alarm Out Setup

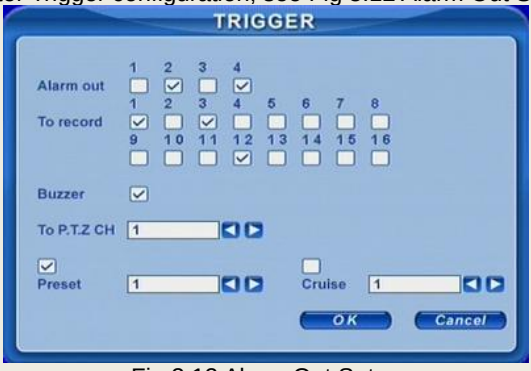


Fig 3.12 Alarm Out Setup

STEP4 Select alarm out and recording channels. It can trigger any alarm out and cameras to record once motion is detected.
STEP5 Enable or disable Buzzer on board. Select speed dome (PTZ) and enable preset or auto cruise. Press OK to save
STEP6 Set Hold time. It is the interval time between two consecutive motion events. If a second motion event is detected during the Hold time, it is recognized as a continuation of the first motion event. If a second motion is detected after Hold time, this motion and the previous are recognized as two different motion events.
STEP7 Click OK to save settings
STEP8 Enter SCHEDULE configuration. Select Motion and relative cameras to set, refer to 3.3.3 Schedule recording.

***Note**: About preset and auto cruise, users can only select one or the other.*
The actual post alarm record time equals Hold time in RECORD and Hold time in MOTION

3.3.5 Alarm Recording

This unit supports recording channels and PTZ linking after alarm.

STEP1 Enter ALARM configuration, see Fig 3.13 Sensor Alarm Setup. Select cameras

Fig 3.13 Sensor Alarm Setup

STEP2 Enable Detection first. Set Device type.
STEP3 Enter Trigger configuration. Set alarm out, recording cameras and linked PTZ, referring to 3.3.4 Motion Detection Recording STEP4-5
STEP4 Set Alarm in hold time. It is the interval time between the two adjacent efficient alarms. This is similar with Hold time in MOTION configuration.
STEP5 Set Alarm out hold time and Buzzer hold time. Click OK to save settings
STEP6 Enter SCHEDULE configuration. Select Sensor and relative cameras to set, referring to 3.8 Schedule Setup.

***Note**: About preset and auto cruise, users can only select one at same time.*
The actual post alarm record time equals Hold time in RECORD and Hold time in MOTION

3.4 Playback

This unit supports time search and event search. It displays full or 4 screens in playback. Click right mouse button to show the control bar, refer to Fig 4.1 Control Bar. Click Search, the window below will appear on the screen.

Fig 3.14 Search Menu

Time search:

STEP1 Enter Search configuration, select Time search. A window will appear as Fig 3.15 Calendar Search. If there are recordings during a day, the date will be highlighted.

Fig 3.15 Calendar Search

STEP2 Choose a day to do a time search, as in Fig 3.16 Time Search.

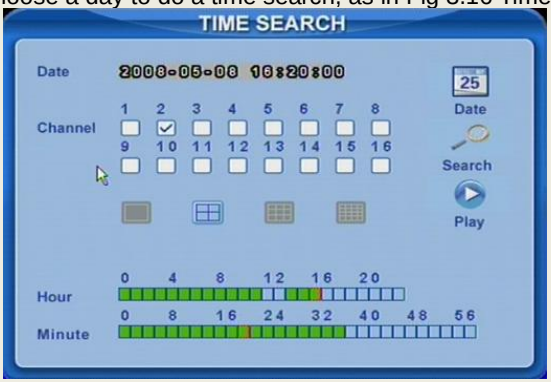


Fig 3.16 Time Search

STEP3 This unit has full and 4 screen playback. Select the screen display mode (the boxes under the channels) and the channels.
STEP4 If want to change the date, press Date button. Set hour and minutes of start time. If there is a recording at that time, the boxes will show green.
STEP5 Click Play button. It will play from the time point you set.
STEP6 Click the function buttons on the screen to do fast forward/backward, pause, stop, and change the screen mode and re-search, See Fig 3.17 Playback.

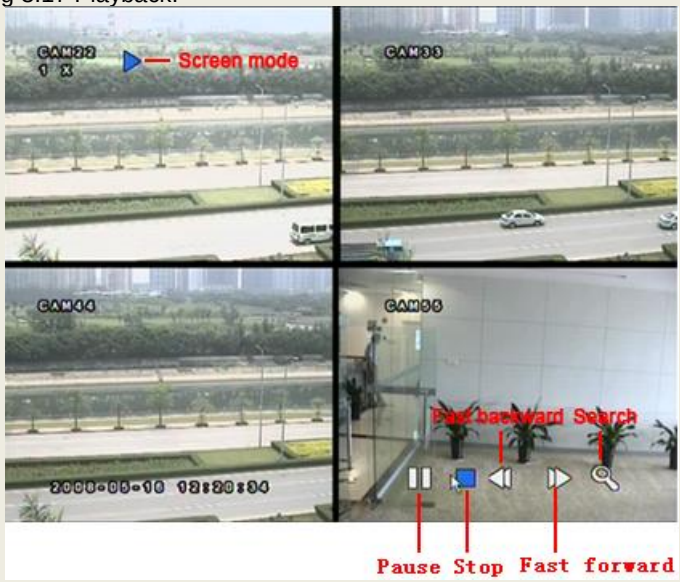


Fig 3.17 Playback

Event search:

STEP1 Enter Search---->Event search. The calendar window will appear like that of time search

STEP2 Choose a day to find events for, as Fig 3.18 Event Search

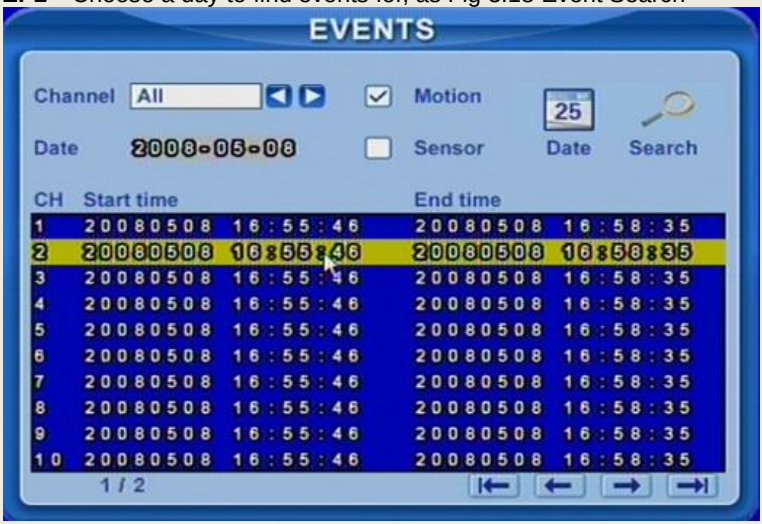


Fig 3.18 Event Search

STEP3 Choose camera and event type, motion or sensor.

STEP3 Double click one video file to play.

3.5 Backup & View

STEP1 This unit supports backup to USB Flash through the USB port on the front panel. Users can also make backup to PC by IE browser via internet, referring to 6.3.1 STEP2Select the date, channel and event type. Then click Search. All the files found will be listed in left area.

STEP2 Select a file, and click Play button to do remote playback. The following steps are the same as STEP5-6 of time search above.

.

Take USB flash backup as an example. You can push the Backup button on the front of the DVR or press right mouse button to show the control bar, refer to Fig 4.1 Control Bar.

At DVR location:

STEP3 Enter Backup interface, shown as Fig 3.19 Backup Setup

Fig 3.19 Backup Setup

STEP4 Choose the camera. And set the start and end time. Click Date button to change the date.

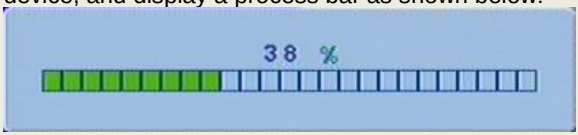
STEP5 If you put a check mark in the "Attach record player" option, it will save a file player along with the backed up files. With this player users can make time and event searches when checking the backup.

STEP6 Click the Backup button. A window will appear as shown in Fig 3.20 Backup Information.

Fig 3.20 Backup Information

***Note**: If users install built-in DVD writer and USB device, it will show USB device in window. It will show CD-ROM in window even though users install DVD writer*

STEP7 Press OK button. It will begin to write the video files you selected to the backup device, and display a process bar as shown below:



STEP8 It will show "Backup complete" after finished, as shown below:

Check & View:

Users can view the backup with third party software like Real Player or Windows Media Player directly. Users can also view with the special software attached with the files during backup. Below are the steps to view the backup with the special software.

STEP1 Move the backup device to a computer. Enter the backup folder and open the viewer.

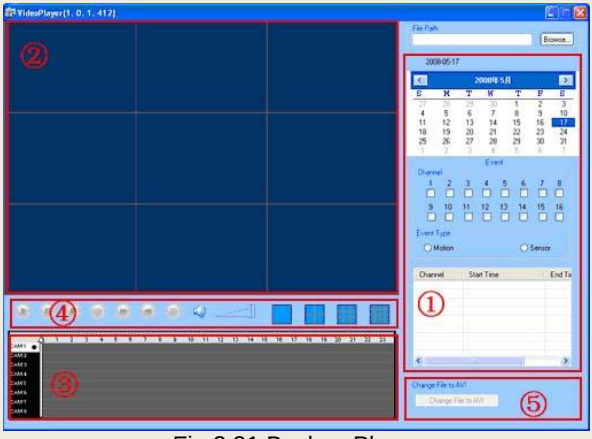


Fig 3.21 Backup Player

① Search area

② video display area

③ Video data area

④ Control area

⑤ AVI converting

STEP2 Click Browse to choose the folder which contains the video backup, as in Fig 3.22 Choose Backup Folder.

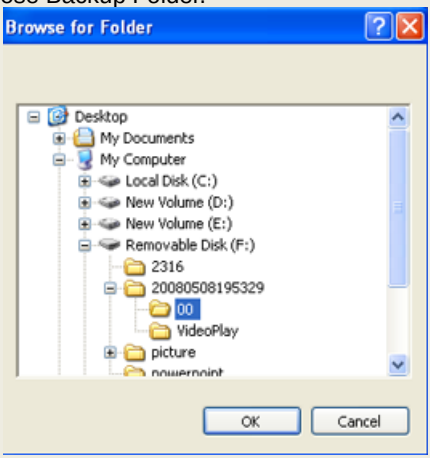


Fig 3.22 Choose Backup Folder

STEP3 Set the date and channels. It will show the recorded video in area③ with green at the top as in Fig 3.23 Backup Data Search.

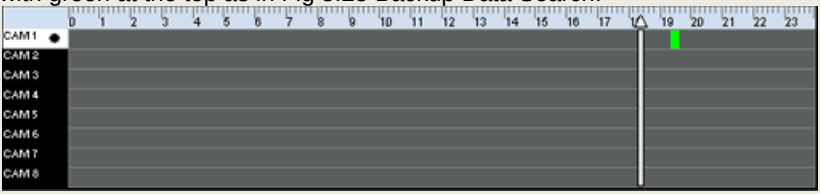


Fig 3.23 Backup Data Search

If using event search, it will list event files at the bottom of area①

STEP4 Drag the slide bar to the start time point, click play button to view. It supports multi screen display. Users can do fast forward/backward, record, play audio etc, as shown below.

Fig 3.24 Play Backup Files

Index	Definition	Index	Definition	Index	Definition	Index	Definition
①	Play	②	Pause	③	Stop	④	Snap only in pause. Refer to Fig 6.3
⑤	Forward/Rewind	⑥	Record	⑦	Volume	⑧	Screen mode

Tab 3.2 Backup View Control

STEP5 Program supports AVI converter. Click "Change File to AVI". The converter will appear.

STEP6 Click Browse to choose the folder which contains the video backup. Set the start/end time, select the channels, and then Click search button. It will show backup files in the file display area as shown in Fig 3.25 AVI Converter.

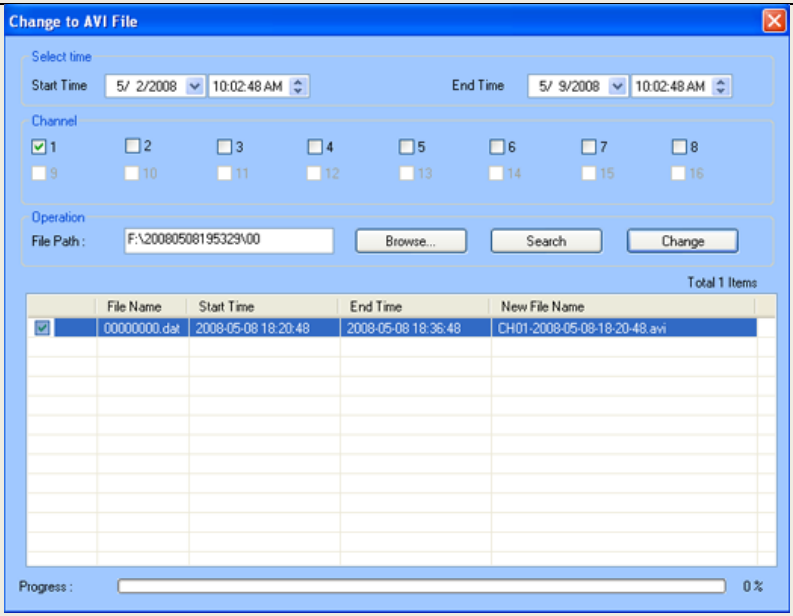


Fig 3.25 AVI Converter

STEP9 Select the files. Click Change button, it will start converting the files and show the progress at the bottom.
STEP10 When the progress bar shows 100% it is finished. Users can play the AVI files with a third party player directly.

STEP11 For more information about network backup, please refer to 6.3.1 STEP2Select the date, channel and event type. Then click Search. All the files found will be listed in left area.
STEP12 Select a file, and click Play button to do remote playback. The following steps are the same as STEP5-6 of time search above.
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3.6 PTZ Control

Please connect speed domes to the DVR via RS485 first, refer to 2.3.1 Rear Panel. Make sure the speed dome has a protocol this DVR supports and set the parameters according to its manual.

STEP1 Press right mouse button to show the control bar. Enter Menu---->System--->P.T.Z, see Fig 3.26.

Fig 3.26 PTZ Setup

STEP2 Set protocol, baud rate, and address according to the parameters of the speed dome.

STEP3 Click Set button at right of Preset. Here users can set presets, shown as Fig 3.27 Set Presets. Adjust the speed dome. Select a preset and click to save. Users can set 16 presets total.

Fig 3.27 Set Presets

STEP4 Click Set button at right of Cruise. Here users can set cruise track, shown as Fig 3.28 Set Cruise. Choose the preset, set stay time of every preset. Click + button to add the preset to the left preset for cruise track.

Fig 3.28 Set Cruise

STEP5 Select a preset in left preset list, click – button to delete the preset. Click ↑,↓,↑,↓ to adjust the sequence of the presets in the auto cruise setup. Click Save to save and return to the previous interface.

STEP6 Click OK button to save and exit. Press right mouse button to show the control bar. Click PTZ to enter PTZ control, shown as Fig 3.29 PTZ Control.

Fig 3.29 PTZ Control

STEP7 Select the speed dome. Click the direction buttons to move the camera. Click the relative + and – buttons to adjust zoom, focus, IRIS and speed. Click □ button to stop the change.

STEP8 Select the preset, the speed dome will go to that point directly. Select Cruise, it will do auto cruise.

CHAPTER 4 Menu Setup Guide

4.1 Menu Navigation

Menu	Option	Menu	Option
Basic	Device name & ID Video format Language Date &time setup Live audio switch Authorization check switch	Live	Camera name Camera mask Name & time switch SPOT out switch Color adjustment
Record	Video quality Frame rate Record switch Resolution Recycle switch Post alarm record time	Schedule	Recording schedule Motion schedule Sensor schedule
Alarm	Alarm Switch Sensor type Alarm out &out time setup Recorded cameras and PTZ linking	Motion	Motion switch Sensitivity & detection area setup Alarm out & out time setup Recorded cameras and PTZ linking
Network	HTTP & server ports IP address setup PPPoE Network video setup DDNS	PTZ	Protocol, baud rate and address Speed setup Presets setup Cruise setup
User	Add users Delete users Change authorization	Tools	Disk manager Update Load default

Tab 4.1 Menu Navigation

4.2 Main Menu Setup

Click right mouse button, or press ENTER button on the front panel, the control bar will show on the bottom of the screen as in Fig 4.1 Control Bar.

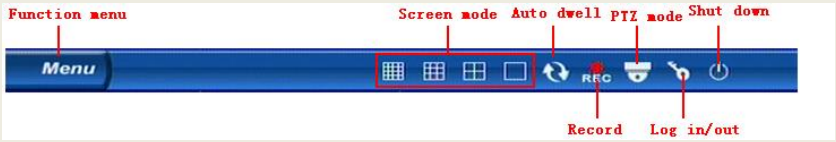

Fig 4.1 Control Bar

Move the cursor to Menu and click, the pop up menu will show as Fig 4.2 Pop up Menu

Fig 4.2 Pop up Menu

Select System. A graphic user interface will show as Fig 4.3 System Setup.

Fig 4.3 System Setup

Press MENU button on the front panel or remote control. The interface above will appear.

***Note**: Only administrator and advance user can enter system setup and do setup.*
DVR needs to reboot after some parameters are changed, like video format.

4.2.1 Basic Configuration

Click BASIC to enter basic configuration shown as Fig 4.4 Basic .

Fig 4.4 Basic Configuration

Here users can set video system, menu language, audio, time and authorization check. The following are the definitions of each option.

Device name: The name of the unit. It may display on the client end or CMS, which helps users to recognize the unit remotely.

Device ID: It is used to identify multiple devices at the same place. Users can manage them by remote control. **Video format:** Options are PAL and NTSC. Users make the choice according to format of the cameras.

Language: Set the menu language.

Authorization check: If enabled DVR needs user name and password when user wants to enter system setup, playback, backup etc.

Audio: Enables audio in live view. Users can choose a channel for audio.

Date format: Three format options, YY-MM-DD, DD-MM-YY, MM-DD-YY.

System time: Set the time. While the unit is recording users cannot change the time. When recording, click Adjust button, a security window will appear.

4.2.2 Live Configuration

Click LIVE to enter live configuration shown as Fig 4.5 Live Configuration

Fig 4.5 Live Configuration

Here users can set name/time display, picture color and hide cameras. The following are the definitions of each option.

Camera name: Set camera name. It can be a combination of numbers, letters and symbols.

Show name: Display camera name in live view.

Hide: Hide the picture in live. Unauthorized users cannot view the camera. But it still works in the background recording.

Show time: Display time in live view.

Dwell time: Is available for both Sequence and SPOT simultaneously. This unit has 2 channels of video output, refer to 2.3.1 Rear Panel. One is the main output, the other is a spot output. Users can set the display time of cameras in auto dwell and spot out.

SPOT enable: Enable spot video output.

Click Set button, a window will appear as shown in Fig 4.6 Color Adjustment.

Fig 4.6 Color Adjustment

Adjust Brightness, Hue, Saturation, and Contrast in live view here.

Default: Set the color to the default value.

4.2.3 Record Configuration

Click RECORD to enter record configuration shown as Fig 4.7 Record Configuration.

Fig 4.7 Record Configuration

Here users can set record quality, frame rate, resolution and recycle. The following are the definitions of each option.

Video quality: There are 5 options from lowest to highest. The higher the value is, the clearer the recorded picture is.

Frame rate: Set recording frame rate.

Audio: Enable audio recording.

Time stamp: Record the current time to video file if checked.

Record: Switch on/off recording function for every camera. DVR records the camera only if the camera's option is checked here. Then you can use manual, schedule, motion detection and sensor alarm recording options for the camera.

Resolution: DVR supports CIF and D1. D1 option is not currently available.

Alarm record hold time(S): Set the length of time DVR records after alarm finishes. It has 4 options, 30, 60, 120 and 180 seconds.

Recycle: Enable HDD recycle. If checked hard drive will overwrite older files once it is full. If unchecked it will stop recording when HDD is full.

***Note**: Video quality, frame rate and resolution are closely related to used storage space. The higher the value is, the higher the bit rate and more space recordings take up on the hard drive.*

4.2.4 Schedule Configuration

Click SCHEDULE to enter schedule configuration shown as Fig 4.8 Schedule Configuration.

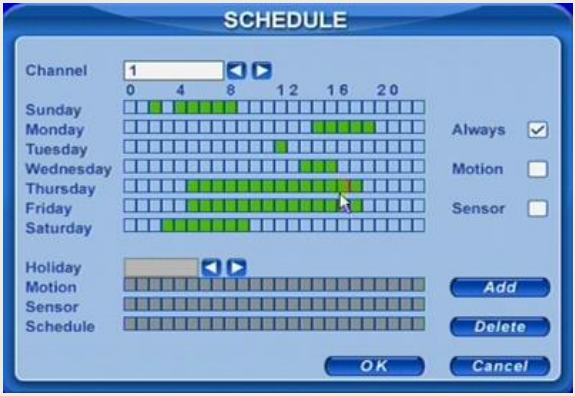

Fig 4.8 Schedule Configuration

Here users can set schedule for timed recording, motion detection and sensor alarm respectively. The following are the definitions of each option:

Always, Motion and Sensor: refer to record schedule, motion schedule and alarm schedule respectively.

The first column shows the 7 days of the week from Sunday to Saturday. The rows refer to 24 hours. Click the boxes or hold mouse to drag to set the schedule time. Green means checked. Transparent means unchecked.

Add: Users can set the schedule for a certain day by date. Click Add to add date as shown in Fig 3.9 Calendar.

Delete: Delete holiday schedule.

4.2.5 Alarm Configuration

Click ALARM to enter alarm configuration as in Fig 4.9 Alarm Configuration.

Fig 4.9 Alarm Configuration

Here users can set sensor type, alarm trigger and alarm time. The following are the definitions of each option.

Device type: NC and NO (Normal Close and Normal Open). Set the value according to the alarm signal level of the sensors.

Enable: Enable sensor alarm.

Trigger: Set alarm output, recording channel and speed dome linking. Click Set button, a window will appear shown as Fig 4.10 Alarm Out Configuration.

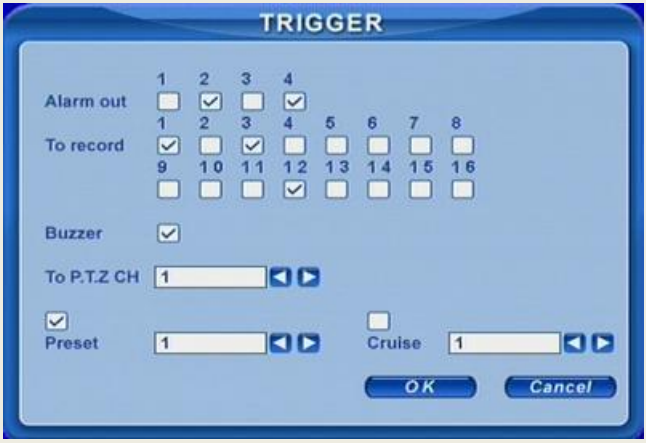

Fig 4.10 Alarm Out Configuration

Alarm out: Set relay alarm out channel. You can select any alarm channels.

To record: Set recording channels. You can select any record channels. It will record on the cameras you choose here when alarm triggered.

Buzzer: Enable on board buzzer for alarm.

To P.T.Z CH: Set linked preset and cruise for alarm. You can select any channel and multi channels as linked channels.

Alarm in hold time(S): The interval time between two consecutive sensor alarm events. If a second alarm is detected within Hold time, it is recognized as a continuous alarm. If a second alarm is detected after hold time, the second alarm and the previous one are recognized as two different alarm events.

Alarm out hold time(S): Set relay alarm out time after alarm is triggered.

Buzzer hold time(S): set on board buzzer time after alarm is triggered.

4.2.6 Motion Configuration

Click MOTION to enter motion configuration shown as Fig 4.11 Motion Configuration.

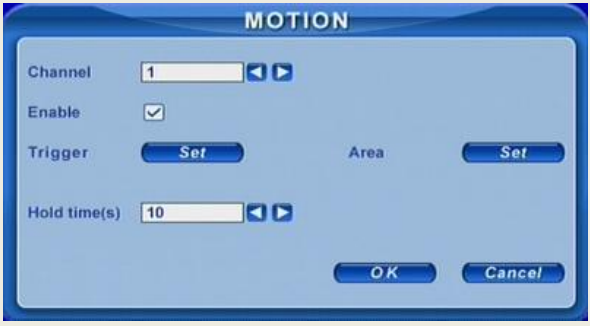

Fig 4.11 Motion Configuration

Here users can set motion sensitivity, detection area and alarm out. The following are the definitions of each option:

Enable: Enable motion detection.

Trigger: Setup similar with that of sensor alarm, but linked speed domes need to use different channels, i.e. if users enable motion detection on camera 1, the linked speed domes must be cameras 2-16.

Area: Set sensitivity and motion detection area. DVR supports multiple detection areas as shown in Fig 4.12 Detection Area Configuration. Click the blocks or drag mouse to enable or disable. Red means unavailable, transparent means available. Click Save to save and exit.

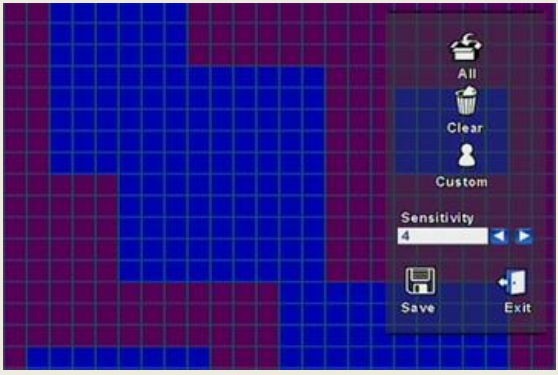

Fig 4.12 Detection Area Configuration

Sensitivity: Set detection sensitivity from 1-8, 8 is most sensitive. The default is 4.

Exit: Quit without saving

Hold time(S): The interval time between two consecutive motion events, similar to that of sensor alarm.

4.2.7 Network Configuration

Click NETWORK to enter network configuration as shown in Fig 4.13 Network Configuration.

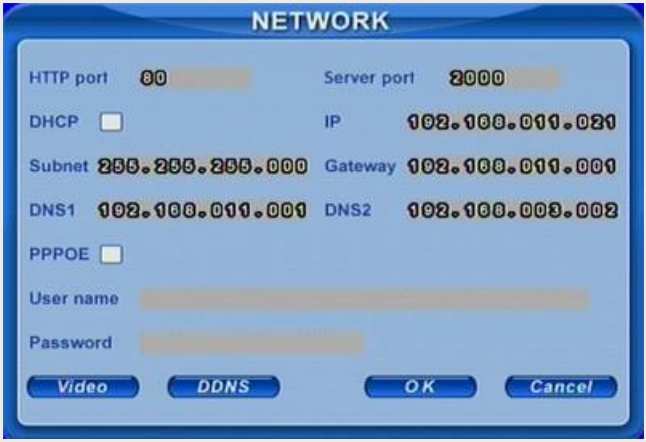

Fig 4.13 Network Configuration

This unit supports DHCP, PPPoE, DDNS. Users enable network function, and configure IP address, DDNS, transmission video parameters here. The following are the definitions of each option:

HTTP port: The default is 80. If users change the value, they need add the port number when typing the IP address in IE address blank, i.e. set HTTP port to 82, IP address to 192.168.0.25. Users need input http://192.168.0.25:82 in IE browser.

Server port: Communication port, 2000 by default

DHCP: Enable DHCP. For this feature to work you need to enable DHCP in the router or virtual server. When enabled the unit will get IP address information automatically from the router instead of inputting IP, Subnet, and Gateway manually. After you allow the router to assign the addresses you should go to the info button on the DVR or remote and see what addresses where assigned, and then go back to the Network Configuration, remove the checkmark from DHCP and manually enter the IP addresses assigned by the router into the spaces. This way your addresses will not change if the system is rebooted.

IP, Subnet, Gateway, DNS1 and 2: IP address information. If users don't enable DHCP it is necessary to input the IPs manually here.

PPPoE: Enable PPPoE. If users connect the DVR to internet directly by ADSL, not through a router or a virtual server, enable this option.

User name, Password: Account information of PPPoE. Input information you get from your ISP.

DDNS: Click DDNS, a window will appear as shown in Fig 4.14 DDNS Configuration. DVR supports DNS2P and 88IP. Users need register at www.dns2p.com or www.88IP.net. Then input registered ID and password here. Click OK button. The unit will connect Through DNS2P or 88IP.

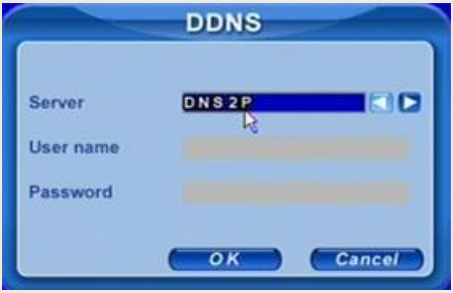

Fig 4.14 DDNS Configuration

Server: Select DDNS server.

User name and Password: Input registered information from DDNS provider.

This unit supports dual stream. Users can set picture quality, frame rate and resolution separately for network, according to the network bandwidth. Click Video to enter the configuration interface shown as Fig 4.15 Network Video Configuration.

Fig 4.15 Network Video Configuration

Video quality: Network picture quality.

Frame rate: There are two options, 1 and 3 fps.

Resolution: Currently only has CIF available.

Time stamp: Display time in remote preview.

4.2.8 P.T.Z Configuration

Click P.T.Z to enter PTZ configuration shown as Fig 4.16 PTZ Configuration.

Fig 4.16 PTZ Configuration

Here users can set protocol, baud rate, address, presets and auto cruise track. The following are the definitions of each option:

Protocol, Baud rate, Address: Set the value according to the settings of the speed dome.

Speed: Set the speed of the speed dome.

Preset, Name: Select a preset and name it. Click Set, a window will appear shown as Fig 4.17. Select a preset, adjust the speed dome. Click Save button to save it and exit.

Fig 4.17 Set Presets

Cruise, Name: select a cruise track and rename it. Click Set in Cruise row. A window will appear as 3.5 PTZ control.

***Note**: DVR has 16 presets and 16 cruise tracks total*

4.2.9 User Configuration

Click USER to enter user management interface shown as Fig 4.18 User Configuration.

Fig 4.18 User Configuration

Administrator can add, delete users, and change their authorization..

. ***Note**: DVR supports one administrator and maximum of 15 users.*

4.2.10 Tools Configuration

Click TOOLS to enter tools configuration shown as Fig 4.19 Tools Manager.

Fig 4.19 Tools Manager

Disk manager: Please refer to 5.1 Formatting the Hard Disk.

Update: Please refer to 5.2 Updating Firmware.

Load default: Please refer to 5.3 Load Default Setup.

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CHAPTER 5 Managing the DVR

5.1 Formatting the Hard Disk

If you want to record, it is necessary to format the hard disk at first. If not being formatted, it will show the position of the disk, free space and total space show 0M at the bottom of screen.

STEP1 Enter USER configuration, referring to 4.2.10 Tools Configuration. Press Disk manager, a window will pop up as Fig 5.1 Disk Manager.

Fig 5.1 Disk Manager

STEP2 If a disk has never been formatted, Status will show "new". Select hard disks, press Format button to begin.

STEP3 A security window will remind user that this will delete all data on HDD. Press OK to continue. A process will display on the screen as below.

STEP4 It will return to the previous automatically after finished. And status will show "normal" after formatted.

***Note**: All recorded files will be lost after formatting.*

5.2 Updating Firmware

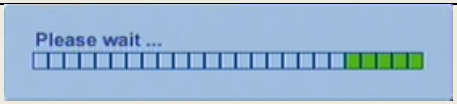
The DVR currently only supports updates through USB. Get the firmware from manufacture's tech support, and make sure the firmware is the correct one for the DVR. Users can check USB information in disk manager, please refer to Fig 5.1 Disk Manager.

STEP1 Plug a USB flash drive into the computer. Copy the firmware to the flash. The extension of firmware is tar.

STEP2 Move the USB flash to the DVR. Enter TOOLS configuration, refer to 4.2.10 Tools Configuration.

STEP3 Click Update. A window will appear, which reminds users that it will automatically load default settings after update.

STEP4 Press OK to begin. The progress bar will display on the screen during update.



STEP5 After finishing, the unit needs to be restarted.

***Note**: If a "no device or no file" error appears, it is possible that the USB device is incompatible. Please try a different USB flash drive.*

Please be patient. It will take 2-3 minutes to update.

5.3 Load Default Setup

The DVR has different setup blocks, like Basic, Record, Schedule, Motion etc. Users can choose any block to do default, as shown in Fig 5.2 Reset Blocks.

Fig 5.2 Reset Blocks

STEP1 Enter TOOLS configuration, referring to 4.2.10 Tools Configuration.

STEP2 Click Load default. Select setup blocks; please refer to Fig 5.2 Reset Blocks.

STEP3 Press OK to do default. It will return to TOOLS interface after finished.

5.4 Check System Information

Users can check system information like firmware version, IP address and etc.

STEP1 Press right mouse button to show the control bar. Click Menu, refer to Fig 4.2 Pop up Menu.

STEP2 Click Info, the window below will appear.

Fig 5.3 Status Interface

STEP3 Click System, the window below will display. Check firmware version, recording parameters here.

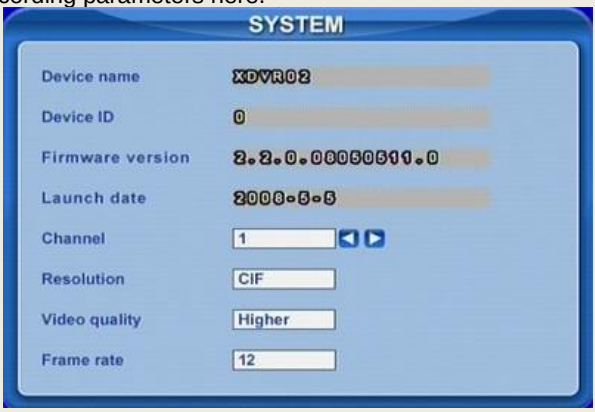


Fig 5.4 System Information.

STEP4 Return to the previous menu, click Network. The window below will display. Check IP address, DVR Mac address, network video quality.

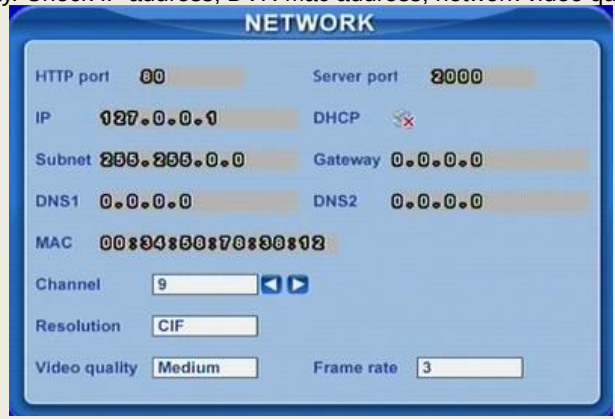


Fig 5.5 Network Information.

5.5 Check System Log

This unit logs system events. It records its working state and operation automatically, and it divides the record to two groups, events and operation. The form below is the details of the two groups.

Group	Details
Events	Motion, Video Loss, Alarm
Operation	Delete File, Lock File, Search, Login, Enable check, Boot, Shutdown, Reset, Start Record, Stop Record, Setup Basic, Setup Live, Setup Record, Setup Schedule, Setup Alarm, Setup Network, Setup P.T.Z

Tab 5.1 Details of System Log

STEP1 Press right mouse button to show the control bar. Click Menu---->Status---->Events, the window below will appear.

Fig 5.6 Events LOG

STEP2 Click Date to change date by a calendar. Click Type to select the event type. Then click Search button. It will refresh the event list.

STEP3 Click ←, ←, →, → to do page down or page up

STEP4 Click right mouse button to return to the previous menu. Click Operation to search operation Log

Fig 5.7 Operation Log

STEP5 The operation is similar to searching events log.

***Note**: The log files are saved to the HDD inside. If HDD is not installed, it won't record any thing. The number of log files is unlimited.*

5.6 Check On-line Network Users

Press right mouse button to show the control bar. Click Menu---->Online users. It will show the details of the current connections as shown below:

Fig 5.8 Details of Current Network Connections

5.7 Lock & Delete Files

Users can control every video file, locking and deleting them. Once users lock an important file, it cannot be covered or deleted. But the locked files can still be cleared by formatting.

STEP1 Press right mouse button to show the control bar. Click Menu, refer to Fig 4.2 Pop up Menu.

STEP2 Click Search----->File manager, the window below will appear.

Fig 5.9 File Manager

STEP3 Click Date to change date by a calendar, click Search to refresh the list. The files found will be listed in the file area of file manager at bottom. It shows the details of every file, like start/end time, lock state.

STEP4 Select the files and click Lock, it will lock the selected files. At this time, a letter "L" will be displayed at the end of the file rows as in Fig 5.9 File Manager.

STEP5 Select any files which are unlocked, click Delete. A dialog window will display. Click Ok to delete them.

CHAPTER 6 Remote Surveillance

6.1 Accessing the DVR

If you want to view the DVR remotely it must be connect to a LAN or internet, and network server must be enabled in the unit. Please refer to 4.2.7 Network Configuration.

This unit supports Internet Explorer browser without any client software installed, it supports XP and Vista operating systems.

6.1.1 On LAN

STEP1 Input IP address, Subnet, Gateway. If using DHCP, please enable DHCP in both the DVR and router.

STEP2 Enter Video to set network video parameters like resolution, frame rate etc.

STEP3 Open IE browser on a computer on the same LAN. Input the IP address of the DVR in IE address blank and enter.

STEP4 IE will download ActiveX automatically. Then a window pops up and asks for user name and password.

STEP5 Input name and password correctly, and enter. It will show the picture below:

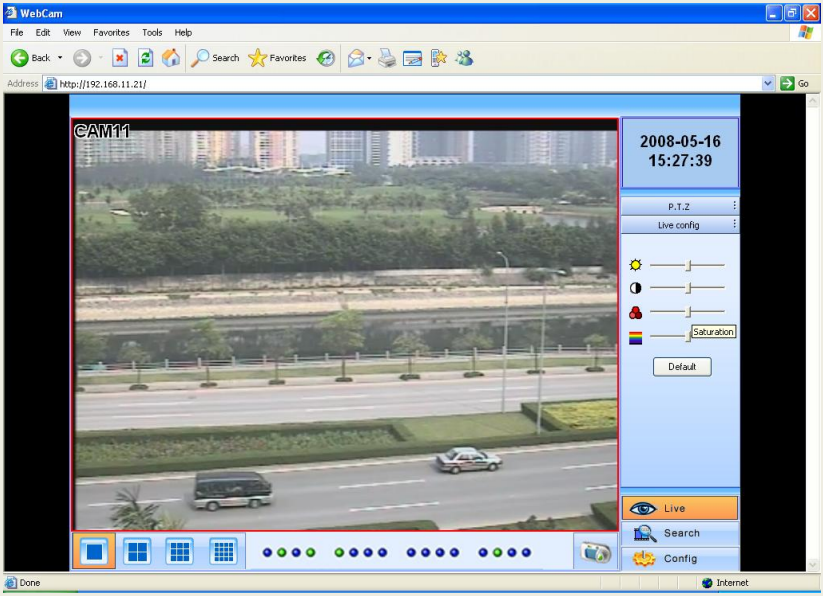


Fig 6.1 View with IE browser

***Note**: If HTTP port is not 80, but is another number instead, you need to add the port number after IP address. For example, if you set HTTP port as 82, you need to input IP address as 192.168.0.25:82.*

User name and password here are the same as that used on the DVR. The defaults are admin and 123456.

6.1.2 On WAN

There are two ways that the DVR can be connected to the internet.

1. Connect the DVR to internet through a router or virtual server.

STEP1 Input IP address, Subnet, Gateway. You can get the Subnet and Gateway by going to the run option on a computer that is attached to the same router as the DVR and typing "cmd" or in the run box and clicking ok. This will open a dialog box. At the command prompt type "ipconfig". This will show you the Gateway, which is the network IP address of the router, and the Subnet. Enter these numbers into the network settings of the DVR. The IP address of the DVR needs to have the same first 3 sets of numbers as the Gateway, but a 4th set of numbers that is different then any other device attached to the router. If using DHCP, please enable DHCP in both the DVR and router.

STEP2 Enter Video to set network video parameters like resolution, frame rate etc.

STEP3 Forward port numbers 80 and 2000 in Virtual Server setup of the router or virtual server to the IP address of the DVR.

Note: *The procedure to forward ports is different in different routers and servers please check your router manual. You can also find instructions on forwarding ports on most popular routers at www.portforward.com.*

STEP4 If you want to utilize dynamic domain name, you need to apply for a domain name in a DNS server supported by the DVR or router. Then add to the DVR or router. Currently this unit only supports www.dns2p.com or www.88IP.net.

To set up the router, please check the router manual.

STEP5 Open IE browser, input IP address or dynamic domain name and enter. If HTTP port is not 80, add the port number after IP address or domain name.

Note: *If you are accessing the DVR from a computer that is attached to the same router as the DVR you need to enter the IP address of the DVR, if you are accessing the DVR from a remote computer you need to enter the internet IP of the router. You can get this address by going to a website such as www.myipaddress.com from a computer that is attached to the same router as the DVR.*

STEP6 IE will download ActiveX automatically. Then a window pops up and asks for user name and password.

STEP7 Input name and password correctly, and enter to view.

Note: *If you cannot download and install ActiveX, please r*efer to Appendix A FAQ Q7.

2. Connect the DVR to internet directly.

STEP1 Input IP address, Subnet, Gateway gotten from your ISP. If using ADSL, please input user name and password, and click OK. The DVR will connect to the server and show "connection succeeds".

STEP2 The following steps are the same as STEP4-7 of the connection way above.

6.2 Remote Viewing

When you enter remote preview you will see the interface shown below:

Fig 6.2 Remote Preview Interface

① Full screen, 4/9/16 screens display mode.

② Camera status:

There are four rows of indicators, which refer to recording, video loss, motion and alarm respectively. When the indicator displays red, it means the relative event. If it shows grey, means the relative event doesn't exist. For example, the indicator of camera1 in video loss row will show red if there is video loss. If it shows grey, channel1 is normal.

Below is the definition of the indicators in the record row:

Symbol	Meaning	Symbol	Meaning
	Manual recording		Schedule recording
	Motion detection recording		Alarm recording
	No recording		

Tab 6.1 Recording Indicator

③ Picture snapshot

④ Remote preview: Adjust the color of cameras, control PTZ.

⑤ Remote playback and backup: Make remote playback and backup, check system log. Please refer to 6.3 Remote Playback &Backup.

⑥ Remote menu setup: Set the parameters remotely.

Note: *the backup file is AVI format. Users can play with a third party player directly.*

Remote Menu Configuration.

④, ⑤ and ⑥ are the function blocks. When one is active, the button will show orange.

Snap pictures:

STEP1 Click on a channel to choose. Click the button, a window will appear as in Fig 6.3 Preview Snap.

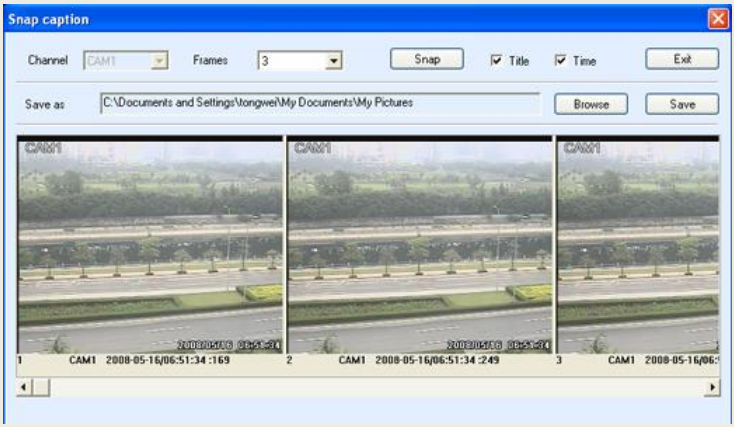


Fig 6.3 Preview Snap

STEP2 Select frames captured one time. Enable Title and Time, it will capture title and time simultaneously.
STEP3 Click Snap to capture pictures.
STEP4 Click Browse to set saving path. Click Save to save pictures to HDD on the computer and the saving folder window will pop up.
STEP5 Click Exit to return to live preview interface.

Color adjustment:

Click on a channel to adjust. Drag the slide bar to adjust Brightness, Contrast, Hue, and Saturation. Click Default to reset them to original value.

PTZ control:

Click P.T.Z to enter the interface shown below. Click on a channel to select the speed dome.

Fig 6.4 Remote PTZ control

① Move the speed dome.

② Stop adjustment.

③ Adjust zoom, focus, Iris, Speed.

④ Go to the preset. Click to rename the preset.

⑤ Select and do auto cruise.

Click right mouse, a pull-down menu will appear as shown below.

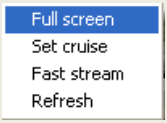


Fig 6.5 Preview Control Menu

Audio: Enable remote audio transmission. Users can hear the audio from the DVR.

Full screen: The picture will fill the screen, without tools bar display. Double click or click right mouse button to return to the previous interface.

Set cruise: Select this function to set, the window below will appear:

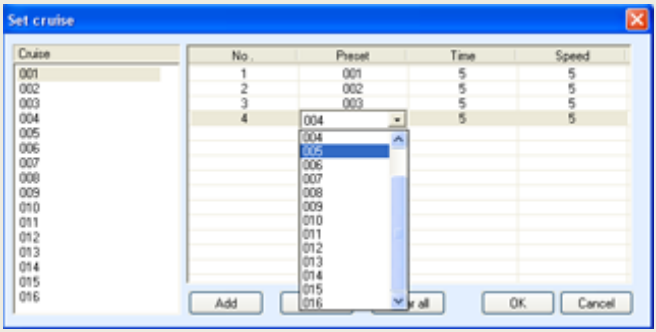


Fig 6.6 Set Cruise

Double click Add to add presets for the selected cruise. Click the preset, a down list menu will pop up. Users can select presets to add. Double click Time to set display time in auto cruise. Click Delete or Clear all to delete the presets. Click OK to save and exit.

Fast stream: Enable the master stream. This DVR supports dual stream, sub stream and master stream. Sub stream has low frame rate, max 3fps for every channel, refer to 4.2.7 Network Configuration. You can use this option to view the cameras on connections with low network bandwidth.

Master stream has higher frame rate, max 30fps for every channel. But it needs higher network bandwidth to display the higher frame rate. So users can select the stream according to their bandwidth.

Refresh: Update the picture on the channel. Sometime the picture on one channel will freeze due to network block or bandwidth. If this occurs, users can refresh the pictures.

6.3 Remote Playback &Backup

6.3.1 Remote Playback

Click Search to enter the playback and backup block as below, where users can make remote playback, remote backup and remote video file management.

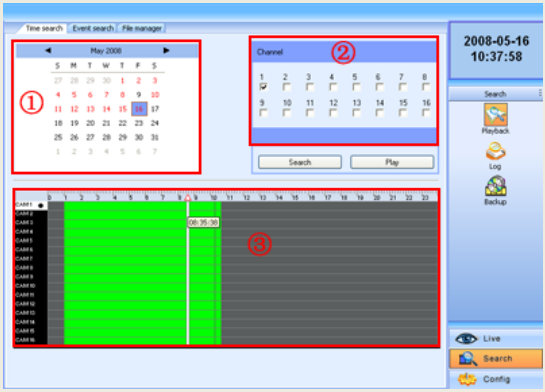


Fig 6.7Remote Playback &Backup Interface

This DVR supports remote time search, event search and one channel playback. The above is the default interface after entering Playback &Backup block.

Search by time:

STEP1 Select the date in calendar area①; select the channel in channel area②.

STEP2 Click Search button to update the search result. All the recorded files found will display in video data area③.

STEP3 In area③, the top bar refers to hours and minutes in a day. The left column refers to cameras. Drag the slide bar to a time point.

Click right mouse button on △ of the slide bar. It will zoom in 10 times, which is helpful for users to select the start time of playback accurately.

STEP4 Click Play button to do remote playback, refer to Fig 6.8 Remote Playback.

Fig 6.8 Remote Playback

STEP5 Users can select fast forward/backward, pause, stop playback and snap pictures. About snap feature, it is the same as in remote preview; refer to Fig 6.3 Preview Snap.

Click to return to search interface.

By event search:

STEP1 Click Event search, the window below will display:

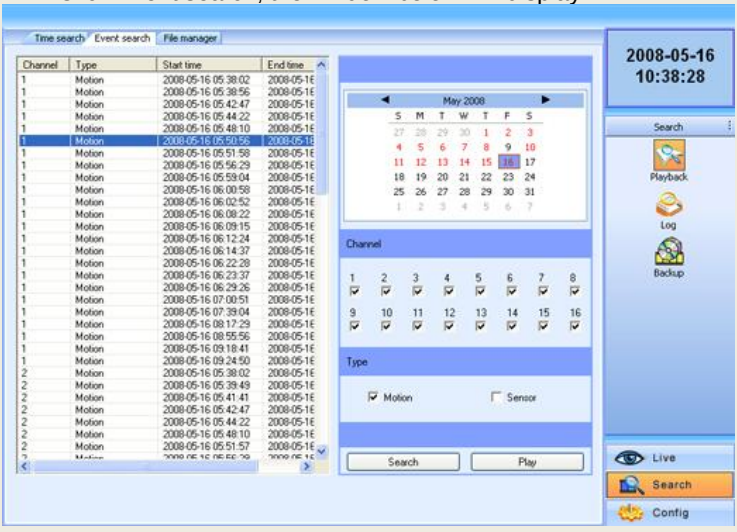


Fig 6.9 Remote Event Search

STEP2 Select the date, channel and event type. Then click Search. All the files found will be listed in left area.
STEP3 Select a file, and click Play button to do remote playback. The following steps are the same as STEP5-6 of time search above.

6.3.2 Remote Backup

Users can download the recorded files from the DVR through a network. Click Backup to enter the interface shown below:

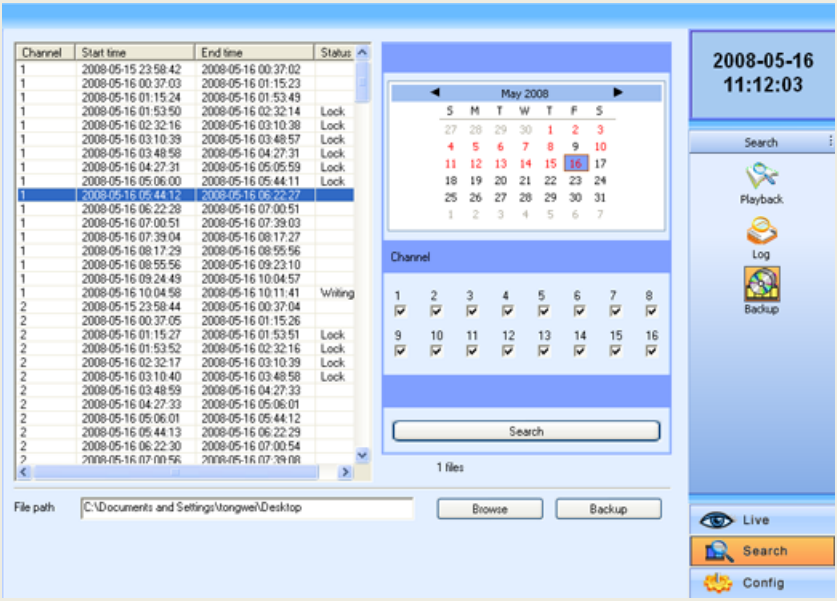
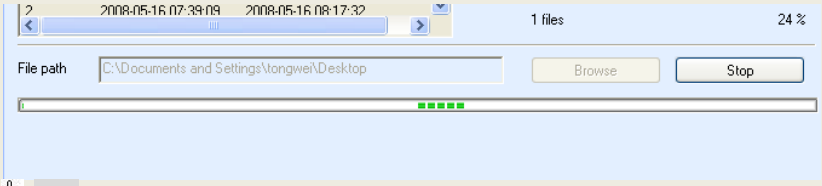


Fig 6.10 Remote Backup Interface

STEP1 Select the date and channel. Then click Search button. It will list all the files recorded in the day in left area.
STEP2 Click Browse button. Set the saving path.
STEP3 Select files in left file area. Holding shift button, you can select multiple files with the mouse simultaneously.
STEP4 Click Backup to do remote backup. It will show the progress on the bottom of the screen as below:



***Note**: the backup file is AVI format. Users can play with a third party player directly.*

6.4 Remote Menu Configuration

Except network parameters, users can set all the parameters like resolution and schedule remotely through network, not going to the DVR. Click Setup to enter the interface as below:

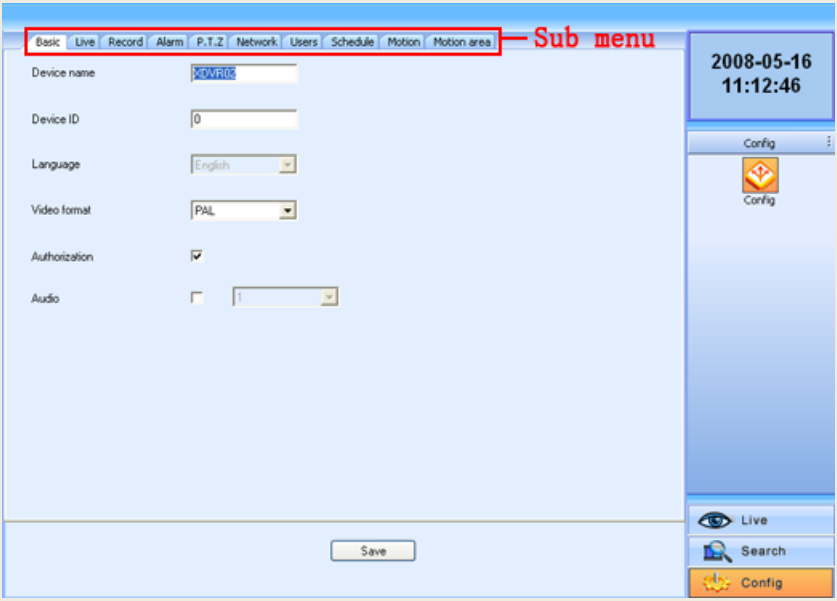
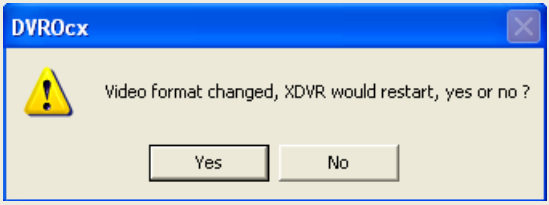


Fig 6.11 Remote Menu Setup

The sub menu lists, and the options in every sub menu are similar with those on the DVR. Please refer to 4.2 Main Menu Setup to do setup.

Click Save to save the changes. Some changes may pop up a dialog box as below and need a restart.



6.5 Remote DVR Management

6.5.1 Check System Log Remotely

Users can check system log remotely. For the details of system log, please refer to Tab 5.1 Details of System Log.

STEP1 Click Search---->Log, the window below will appear. Event log search is the default interface.

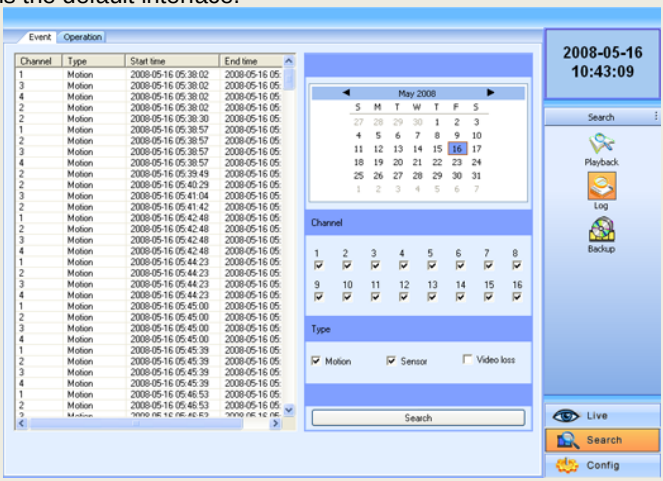


Fig 6.12 Remote System LOG Search

STEP2 Select the date, channel and event type. Then click Search.
STEP3 The entire log found will be listed in left area.
STEP4 Click Operation to enter operation Log search interface

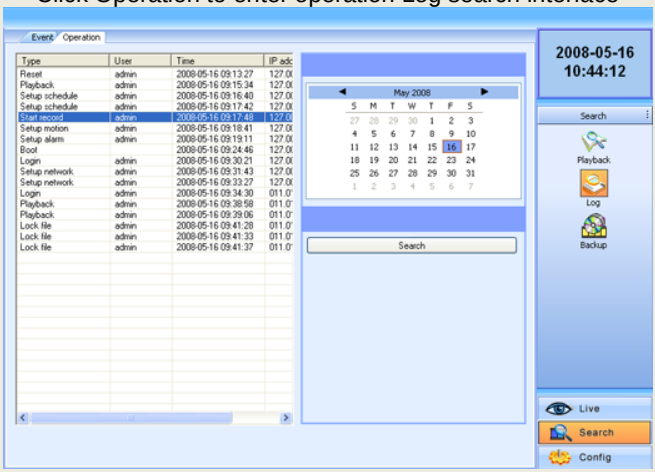


Fig 6.13 Remote Operation Log Search

STEP5 Select the date and click Search. It will list all the log files in the day in left area.

6.5.2 Lock & Delete Files Remotely

Users can lock and delete video files through network**.**

STEP1 Click Search---->Playback---->File manager, the window below will appear:

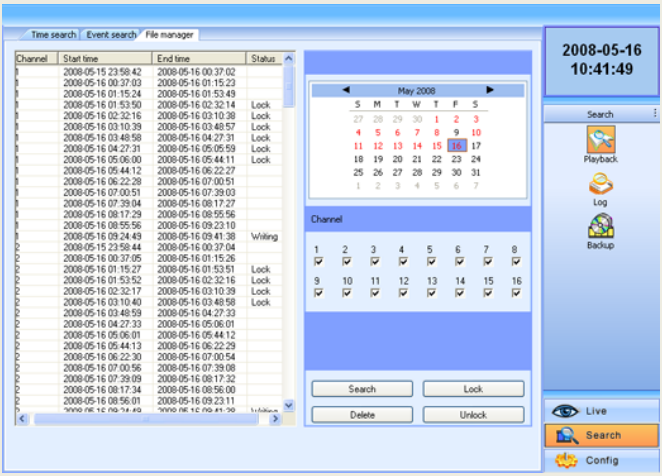


Fig 6.14 Remote File manager

STEP2 Select the date and channels, click Search. All the files found will be listed in the day in left area.

STEP3 The relative status will show "Lock" if the file is locked. "Writing" means the file is still in being written.

STEP4 Select the files which is unlocked, click Delete. A security window will display to remind users. Click Ok to delete them.

***Notice**: In all calendar search areas above, the date will be highlighted if there is data recorded.*

CHAPTER 7 Mobile Surveillance

This DVR supports mobile surveillance by PDA or smart phones with WinCE and Symbian OS. It also supports 3G network. We tested Dopod D600 (WM5) and Dopod S1(WM6), which work fine with the DVR.

To use mobile surveillance, you first need to enable network service on the DVR, refer to 4.2.7 Network Configuration. Below are the instructions for use on the mobile client end for the two operating systems.

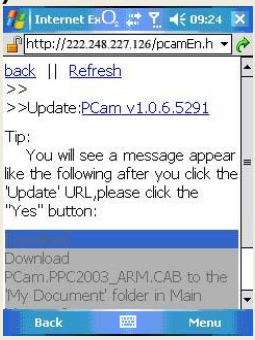
***Note**: DVR only supports live view by mobile devices on one channel at a time.*

7.1 By Phones with WinCE

Please use smart phones or PDAs with WinCE version supported by this unit.

STEP1 First, activate the network access on the mobile phone, and then run "Internet Explorer".

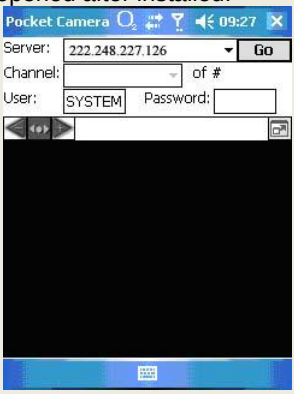
STEP2 Input the public IP address you need to use to connect as shown below **(see 6.1.2 On WAN):**



STEP3 Click on the software name. A dialog box will pop up.

STEP4 Click "Yes" to download and install.

STEP5 PCam will be opened after installed.



STEP6 Input the server's address, ID, and password respectively in the columns of "Server", "User", and "Password". Then click "Go" to login to the DVR. It will show the picture if accessed successfully.

STEP7 Camera 1 is the default display after login. Change the camera in the drop down menu of "Channel".

***Notice**: User name and password here are the same as that used on the DVR. The defaults are user name "admin" and password "123456".*

7.2 By Phones with Symbian

Please use the smart phones with Symbian version supported by this unit.

STEP1 First enable the network access on the mobile phone. And then run Web browser.

STEP2 Input the DVR server's IP address in a new-built bookmark. Click this bookmark to connect to the DVR. **(see 6.1.2 On WAN):**

STEP3 A welcome window will pop up and requires a package. Click "**install package**" to download.

STEP4 The security windows will pop up after downloading and ask if OK to install the package. Click YES to install.

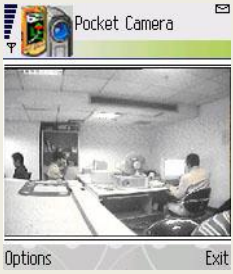
STEP5 A Scam shortcut icon appears on the system menu after finish.

STEP6 Run Scam program.

STEP7 Click Options--->Settings to enter login interface.

STEP8 Input the server's address, ID and password respectively. And click OK to login the DVR.

STEP9 Screen will show the camera after accessing successfully.



***Note**: User name and password here are the same with that used on the DVR. The defaults are admin and 123456.*

Appendix A FAQs

Q1. The DVR does not start after connecting the power, what is wrong?

a. The power adapter may have been damaged, or is not providing enough power. Please change the adapter

b. The DVR may not be getting enough power from the outlet or surge protector it is attached to.

c. There could be a problem with the system board on the DVR

Q2. The indicator lights of the DVR are on, but no output. Why?

a. The power adapter may have been damaged, or is not providing enough power. Please change the adapter

b. The video format of the DVR is different from that of the monitor.

c. Connection problem. Please check the cable and the ports of the monitor and DVR.

Q3. Why are no images displayed on some or all of the channels of the DVR?

a. Connection problem. Please check the cables and the ports of camera and DVR.

b. Camera problem. Please check the cameras by attaching them directly to TV or working port on DVR.

c. The video format (NTSC/PAL) of the DVR is different from that of the cameras. Please change DVR video format.

Q4. Cannot find HDD

a. The power adapter is not providing enough power, or the adapter is not getting enough power from the outlet

b. Connection problem. Please check the power and data cables on the HDD.

c. The HDD is damaged. Try a new one.

Q5. I can not record, what could be the problem?

a. HDD is not formatted. Please format it manually first.

b. The record function is not enabled or setup correctly. Please refer to 3.3 Recording.

c. HDD is full and recycle function is not enabled. Please refer to 4.2.3 Record Configuration.

d. The HDD is damaged. Try a new one.

Q6. I can not use the mouse, what could be the problem?

a. Wait 5 minutes after mouse connected and then try.

b. Mouse is not securely connected. Plug/unplug several times.

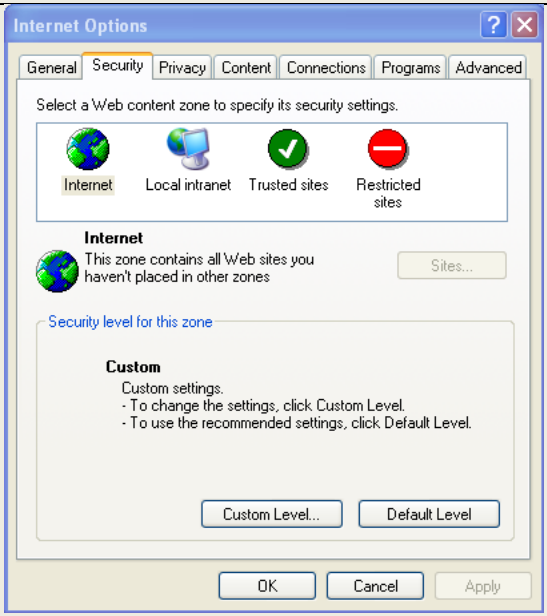
c. The mouse is incompatible with the system. Please try another mouse.

Q7. My computer will not download ActiveX control for remote viewing, what can I do?

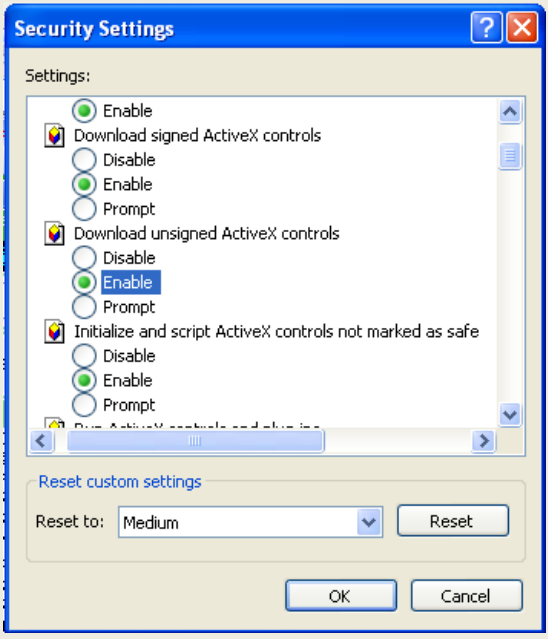
a. IE browser may be blocking ActiveX controls. Try the following steps:

① Open IE browser. Click Tools-----Internet Options….

② select Security------Custom Level….



③ Enable all the sub options under "ActiveX controls and plug-ins"



④ Then click ok to finish setup.

b. Other plug-ins or anti-virus programs may be blocking ActiveX. Please uninstall or close them.

Q8: What can I do when the DVR starts and displays "please wait……"all the time?

First possible reason: hard drive power cable and/or data cable are not securely connected.

Solution: Please check the cable connections and make sure they are secure; if still not working, please unplug them and then plug them in again.

Second possible reason: The system is having problems reading the hard drive.

Solution: Try reformatting the current drive or re-placing it.

Q9: Why isn't the mouse I have plugged into the front USB port working?

The front USB port is only for backup to USB flash drive, and does not support a USB mouse. Please use the USB port on the rear panel if using a mouse.

Q10: How do I input password and digital numbers?

To input password and digital numbers click the box behind *password* or *items* where you need to input numbers, and then a small keyboard will appear. Please select number or letter to input (the default password is 123456), or you can use the digital keys on the front panel, or the digital keys on the remote control.

Q11: How do I upgrade the firmware on the DVR?

After you download the new firmware from the Q-See website at www.q-see.com, copy it onto a USB flash drive, and then select "*upgrade*" in the menu. If upgrading the kernel procedure, please refer to the following method: firstly insert U disk into DVR, and then input "adwsws" in the password of system login and the system will upgrade kernel procedure automatically. After finished, please restart DVR to achieve.

Notice: Do not power off the system during the upgrade process! Otherwise, it may damage the chipset and prevent the DVR from starting.

Appendix B Calculating Recording Capacity

Users can calculate the size of hard drive needed based on DVR recording settings. The DVR uses fixed video bit rate. Below is the space used at different settings.

Video Format	Resolution	Frame Rate Total (FPS)	Video Quality	Bit Rate (kbps)	Storage Used (MB/h)
PAL	CIF	25	Highest	640	281
			Higher	512	225
			Medium	384	168.7
			Lower	256	112.5
			Lowest	128	56
NTSC	CIF	30	Highest	640	281
			Higher	512	225

			Medium	384	168.7
			Lower	256	112.5
			Lowest	128	56

For example, if a customer uses NTSC cameras, sets resolution to CIF, video quality to Lower, frame rate to 240fps for 16ch total, and he wants the unit to continuously record for a month, below is the calculation:

Storage used in a day: 112.5X24(h)X(240fps/30fps)≈21GB

Storage used in 30 days: 21X30≈630GB

So the customer must install SATA HDDs with 630GB capacity for it to record a month.

Appendix C Compatible Devices

1. Compatible USB drives (that we have tested):

Brand	Capacity
SSK	512MB, 1G, 2GB
Netac	4GB
Kingston	2GB
Aigo	2GB
Smatter vider	1GB
Scandisk	4GB

Tab C.1 Compatible USB drives

2. Compatible SATA CD/DVD writers (that we have tested):

Brand	Model
SAMSUNG	TS-H653B
LITE-ON	DH-20A6S01C

Tab C.1 Compatible CD/DVD writers

Appendix D DVR Specifications (8 CH)

Compression format	Standard H.264 Baseline
Video output	Composite：1.0V p-p/75Ω，BNC×2 S-VIDEOX1, VGAX1
Video input	Composite：1.0V p-p/75Ω，BNC×8
Display Resolution	720*576 (PAL), 720*480 (NTSC)
Record Resolution	352*288 (PAL) 352*240 (NTSC)
Display Frame Rate	200FPS (PAL), 240FPS (NTSC)
Record Frame Rate	100FPS (PAL) 120FPS (NTSC)
Audio input	-8dB~ 22k, RCA X4
Audio output	-8Db~92dB, RCA X1
Alarm input	NO or NC 8CH
Alarm output:	4CH
Record Mode	Manual / Sensor /Timer / Motion detection
Simplex/Duplex/Triplex	Pentaplex
Network Interface	RJ45 (LAN, INTERNET)
PTZ control	YES
Communication ports	RS485, USB2.0 x 2(one for backup, another for USB mouse), PS/2 x 1
Drives supported	SATA x 2+DVD-RW x 1
Remote control	YES
Power supply	12V 6A

Appendix E DVR Specifications (16 CH)

Compression format	Standard H.264 Baseline
Video output	Composite：1.0V p-p/75Ω，BNC×2 S-VIDEOX1, VGAX1
Video input	Composite：1.0V p-p/75Ω，BNC×16
Display Resolution	720*576 (PAL), 720*480 (NTSC)
Record Resolution	352*288 (PAL) 352*240 (NTSC)
Display Frame Rate	400FPS (PAL), 480FPS (NTSC)
Record Frame Rate	200FPS (PAL) 240FPS (NTSC)
Audio input	-8dB~ 22k, RCA X4
Audio output	-8Db~92dB, RCA X1
Alarm input	NO or NC 16CH
Alarm output:	4CH
Record Mode	Manual / Sensor /Timer / Motion detection
Simplex/Duplex/Triplex	Pentaplex
Network Interface	RJ45 (LAN, INTERNET)
PTZ control	YES
Communication ports	RS485, USB2.0 x 2(one for backup, another for USB mouse), PS/2 x 1
Drives supported	SATA x 2+DVD-RW x 1
Remote control	YES
Power supply	12V 6A

Q-SEE Product Warranty

Thank you for choosing our products.

All of our products users have a conditional free warranty repair service for hardware within 12 months starting from purchase date, and a free exchange service within one month (valid for manufacturing defects). Permanent upgrading service is provided for the software.

Liability Exclusions:

Any product malfunction, abnormalities in operation or damage caused by following reasons are not within the free service scope of our company. Please select payable service.

(1) Equipment damage caused by improper operation

(2) Improper environment and conditions in/on which the equipment operates, e.g., improper power, environment temperature, humidity and lightening strike etc. that cause equipment damage.

(3) Damage caused by acts of nature: earthquake and fire etc.

(4) Equipment damage caused by the maintenance of personnel not authorized by our company.

(5) Product sold over 12 months ago.

In order to provide various services to you, please complete registration procedure after you purchase the product. Cut off or copy User's Information Card and fax or mail it to us after the card is filled in. You can also register the product by going to the www.q-see.com website and clicking on the Register link.

Customer Information Card

User's Name	**Mr./Mrs.**
Company Name	
Postal Address	
Postal code	
Phone Number	
E-mail	
Model Number of Product	
Serial Number of Product	
Purchase Date	
Distributor	

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